

Fascia of the Neck and Triangles of the Neck 1

Dr. Shereen Adel

INTENDED LEARNING OBJECTIVES (ILO)



By the end of this lecture the student will be able

to:

1- Describe fascia of neck.

2- Describe action and nerve supply of sternomastoid muscle.

3- Subdivide triangles of neck and **enumerate contents of posterior triangle.**

Key Points



1- Superficial & deep cervical fascia

2- Sternomastoid muscle.

3- Boundaries triangles of the neck & contents of posterior triangle.

Case



A one year old boy had a history of birth trauma to the soft tissu of the neck. On examination, th boy's head was tilted to the rig side, while the face was turned to the left side and upwards.

What is the problem with his ne
What are the structures in our n
Fascia……….muscles…….



Clinically oriented Anatomy, 5th edition, Keith Moo

Fascia of the neck

(Superficial & deep)

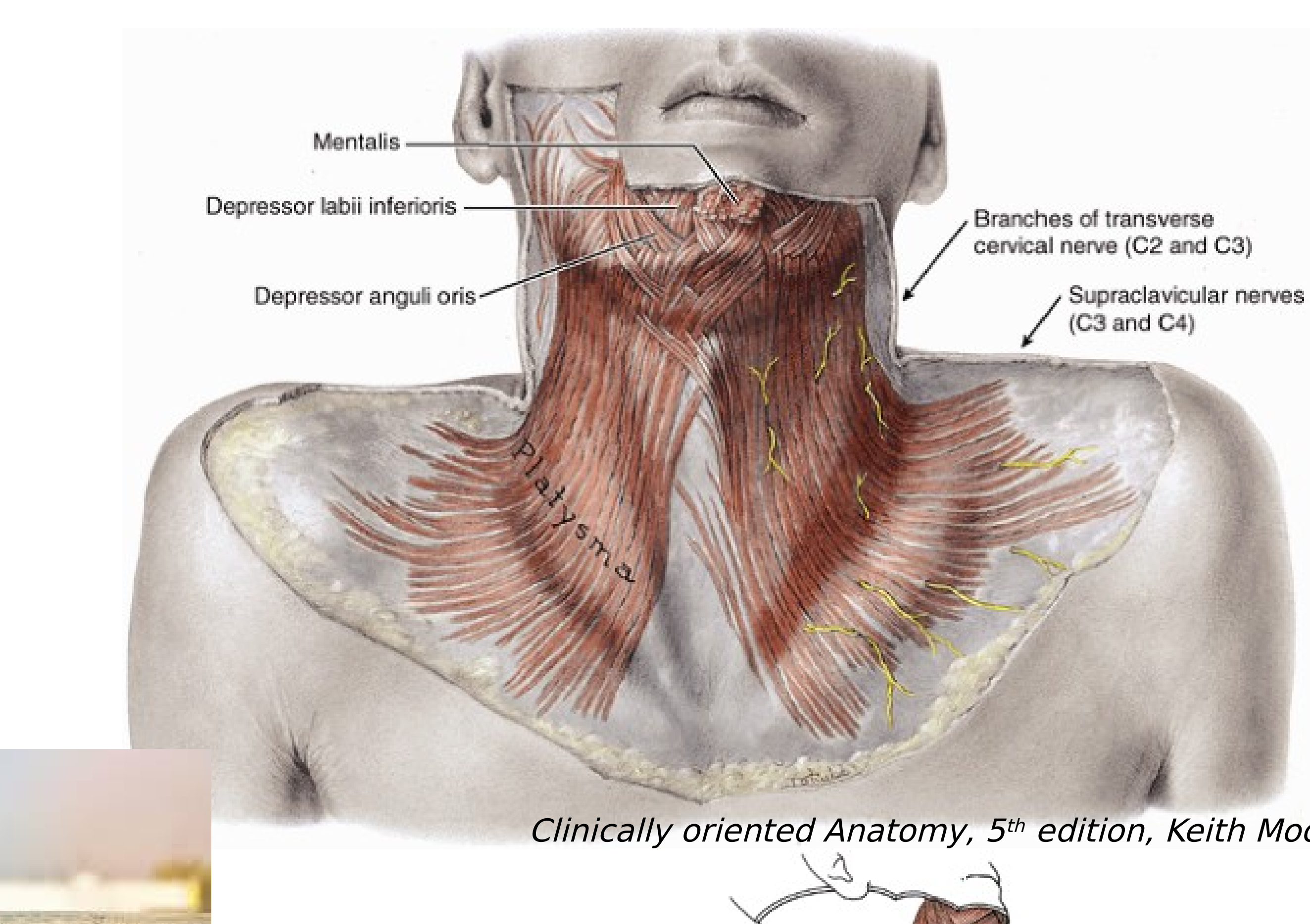


I-Superficial fascia

Contents

1-Platysma

- ***subcutanous muscle***
- ***It is supplied by the facial nerve*** *(cervical branch)*
- ***It is one of the muscles of facial expression***

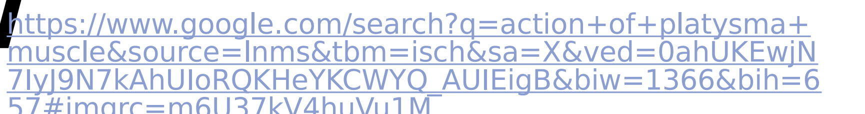


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Platysma

(A) Lateral view

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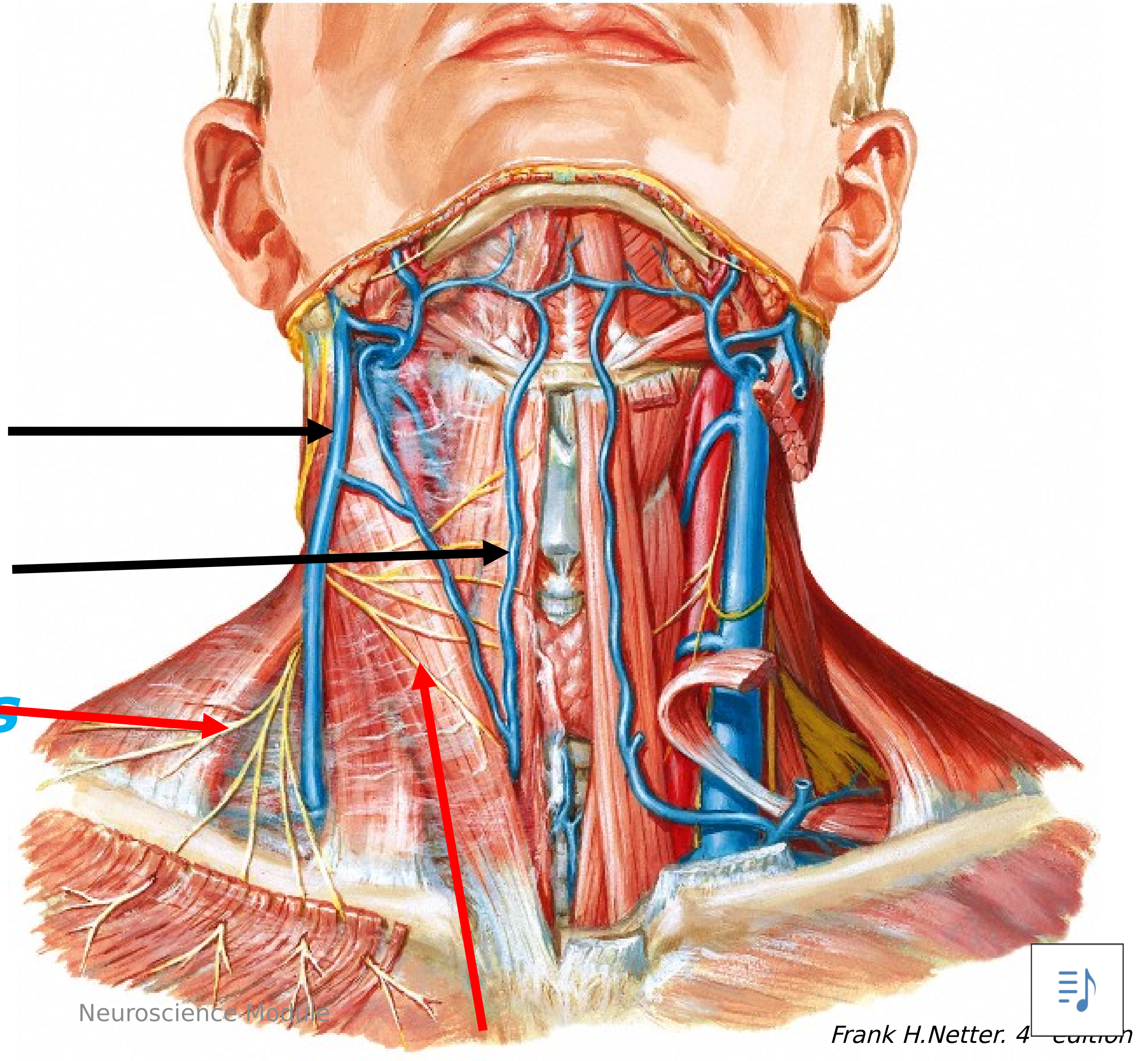
I-Superficial fascia

Contents

2- Superficial veins

- ***External jugular veins***
- ***Anterior jugular veins***

- Cutaneous branches f cervical plexus ????



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Fascia of the nec

II-Deep fascia

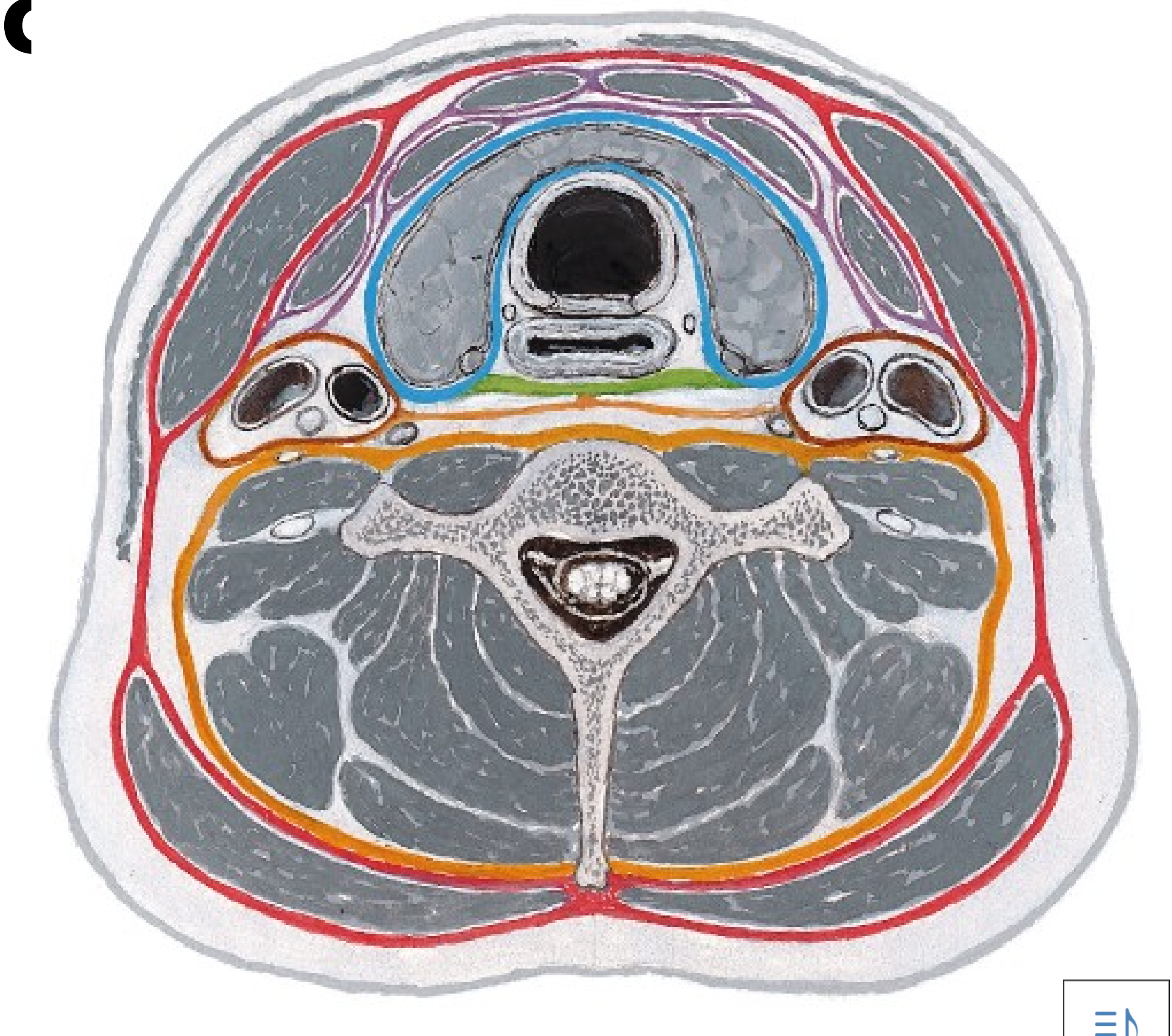
It is condensed to form the following four layers:

1- Investing layer.

2- Pretracheal layer.

3- Prevertebral layer.

4- Carotid sheath.



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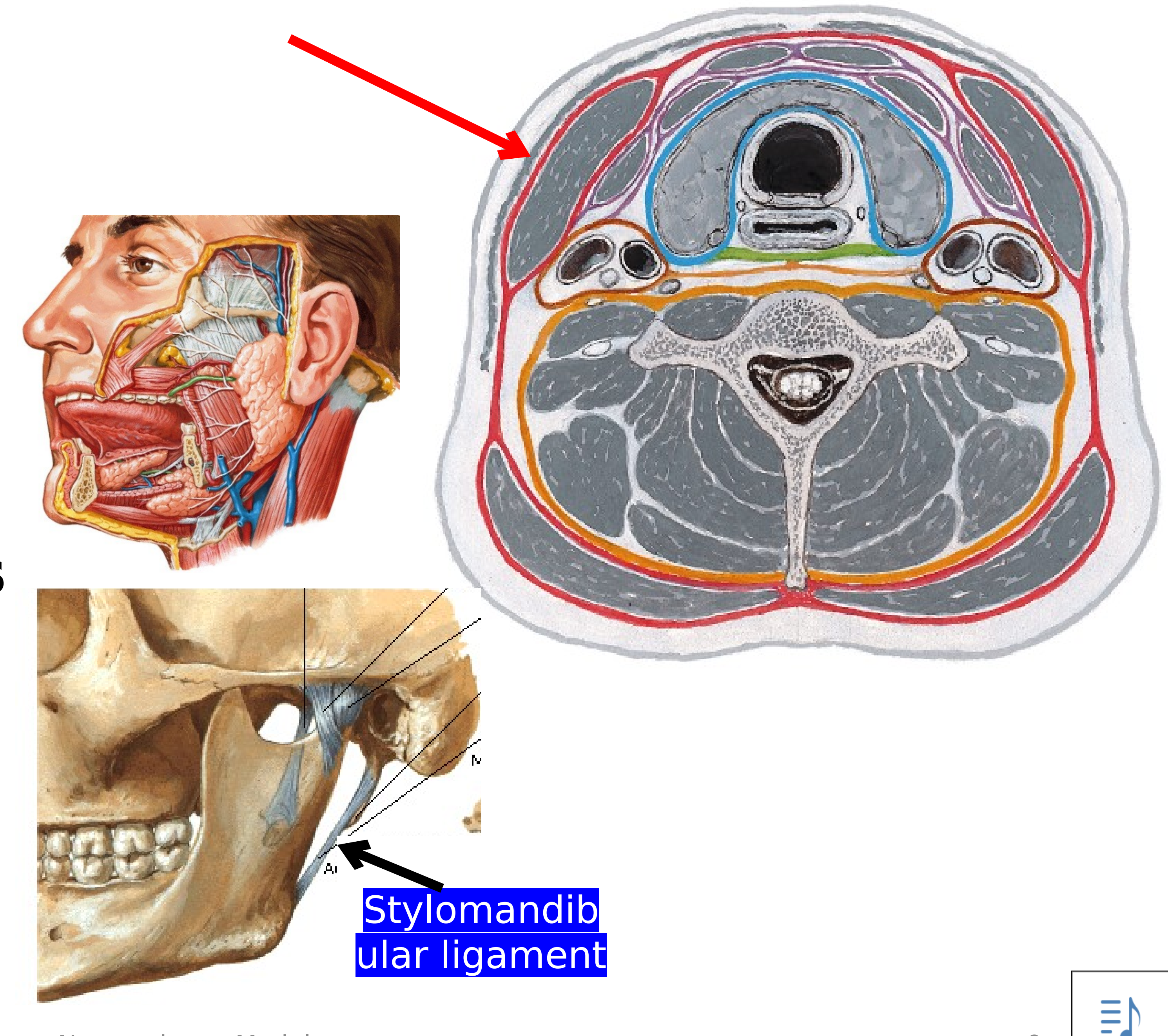
1- Investing layer.

- **It surrounds the neck like a**

Collar.

- **Invest the sternomastoid muscles and trapezius.**

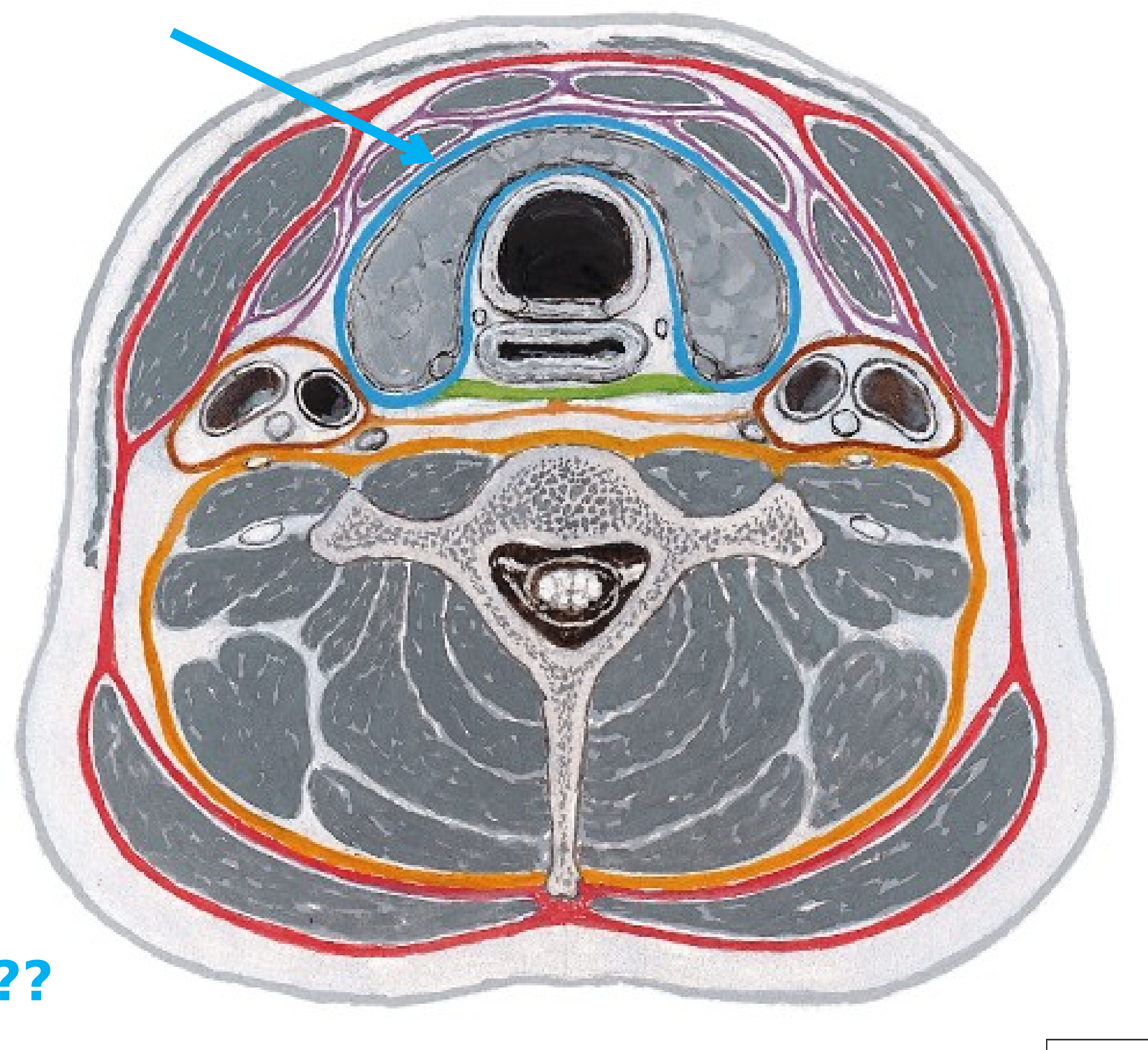
- **Invest the parotid and submandibular gland, its thickening forms *stylomandibular* ligament between the**



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2- Pretracheal fasci

- **It lies anterior to the trachea & attached to the thyroid cartilage.**
- **Encloses viscera of neck: pharynx, larynx, trachea, esophagus.**
- **It invest thyroid gland and parathyroid glands.**



Thyroid gland & its swelling moves with deglutition…Why??????

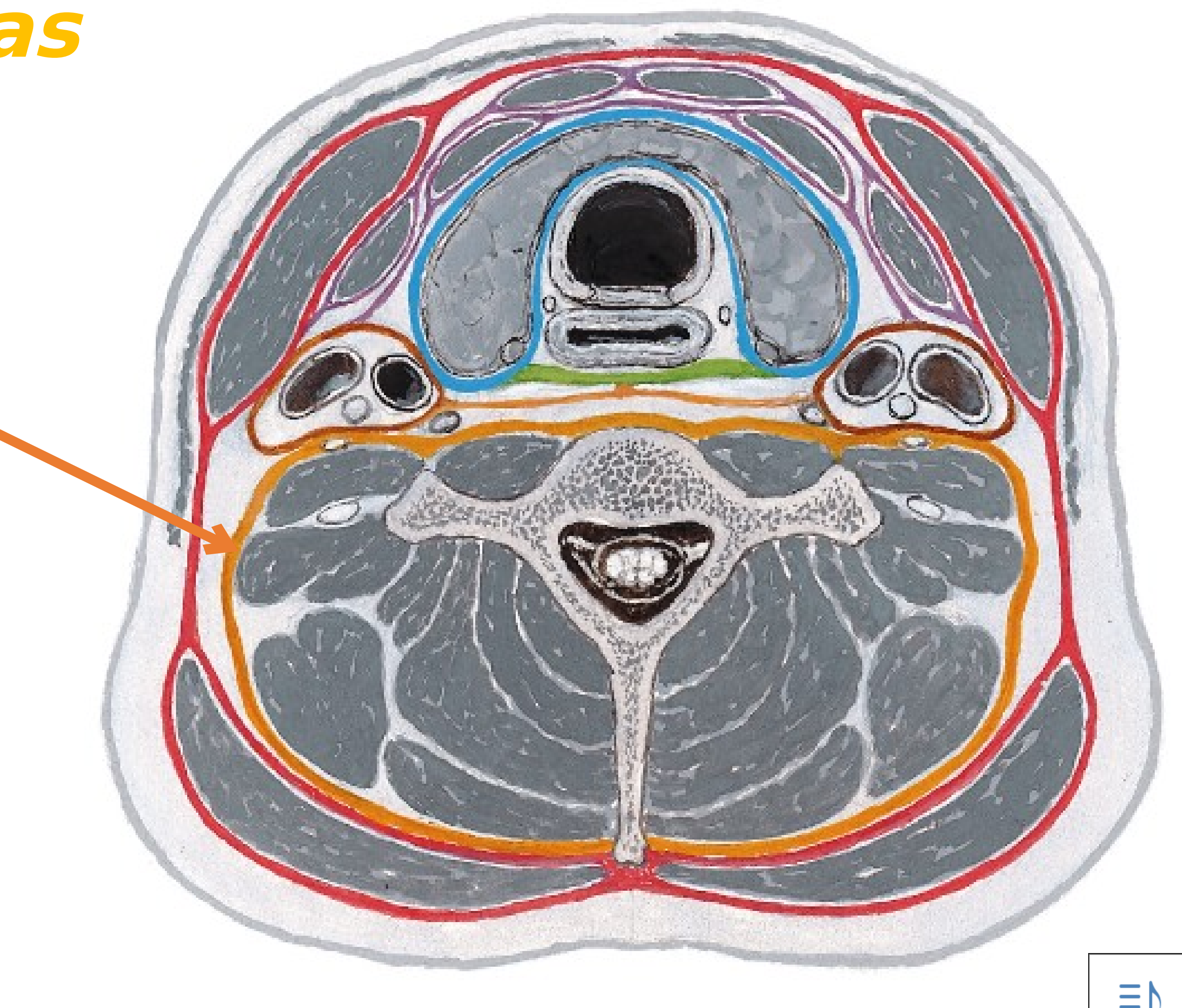
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4-Prevertebral fas

- **Lies anterior to bodies of cervical vertebrae and prevertebral muscles.**

- **Forms the floor of posterior**

triangle.



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4- Carotid sheath

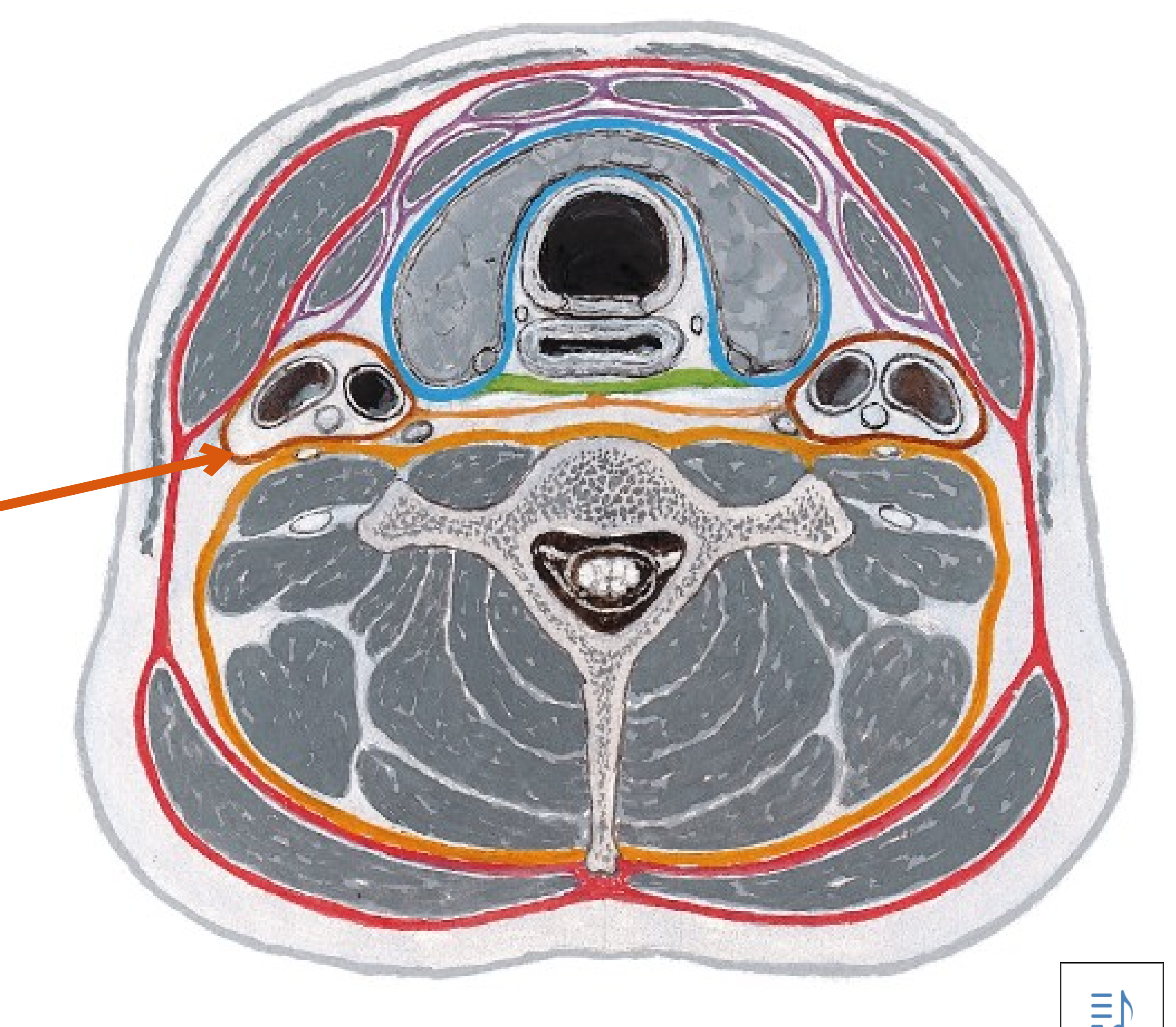
- It is a condensation of fibro-areolar tissue, surrounds common & internal carotid arteries, internal jugular vein & vagus nerve.

- Ansa cervicalis ??????

is embedded in its anterior wall.

- Sympathetic chain ??????

lies behind the sheath.



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Quiz (superficial & deep cervical fascia)



- **Which layer of the deep cervical fascia forms the sheath of the parotid gland ?**

a) investing
b) superficial
c) buccopharyngeal
d) pretracheal
e) prevertebral

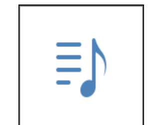


Quiz (superficial & deep cervical fascia)



The carotid sheath and its contents may be safely retracted as a unit during surgical procedures of the neck. The contents of the carotid sheath include all of the following structures EXCEPT the:

a. common carotid artery
b. internal carotid artery
c. internal jugular vein
d. sympathetic trunk
e. vagus nerve

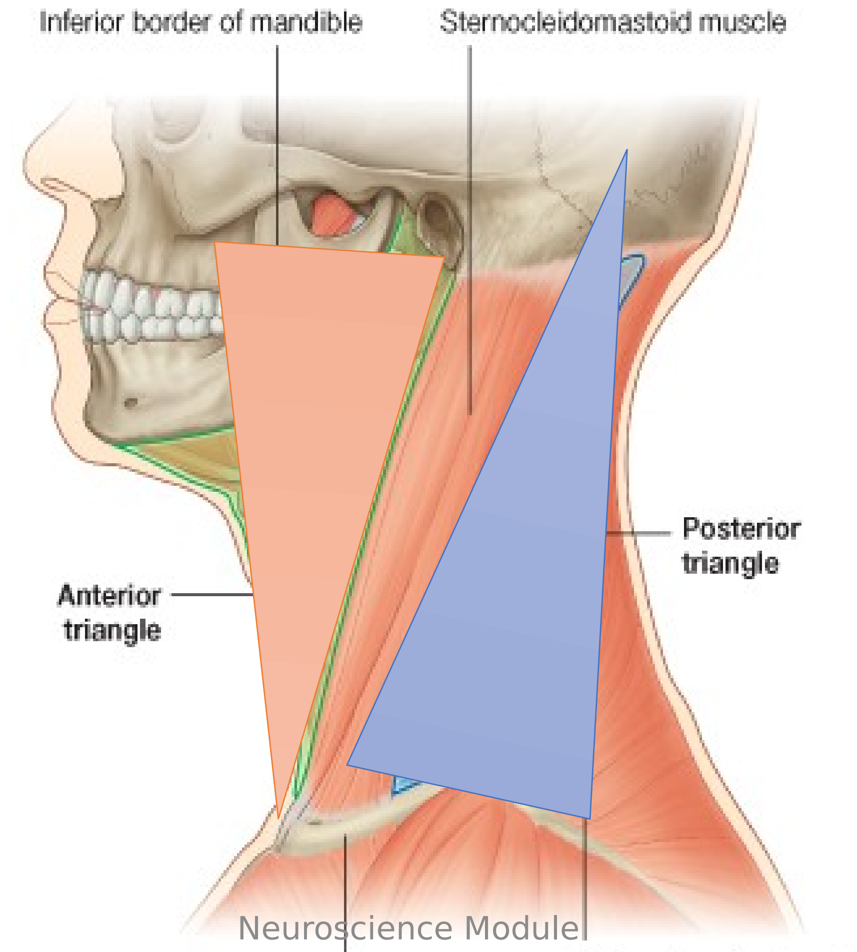


Triangles of the neck

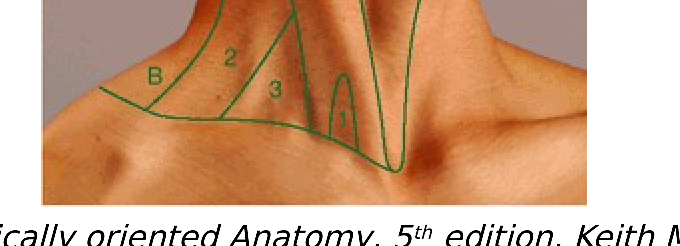


The Neck is divided by sternomastoid muscle into two Triangles

Posterior triangle

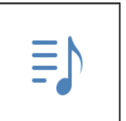


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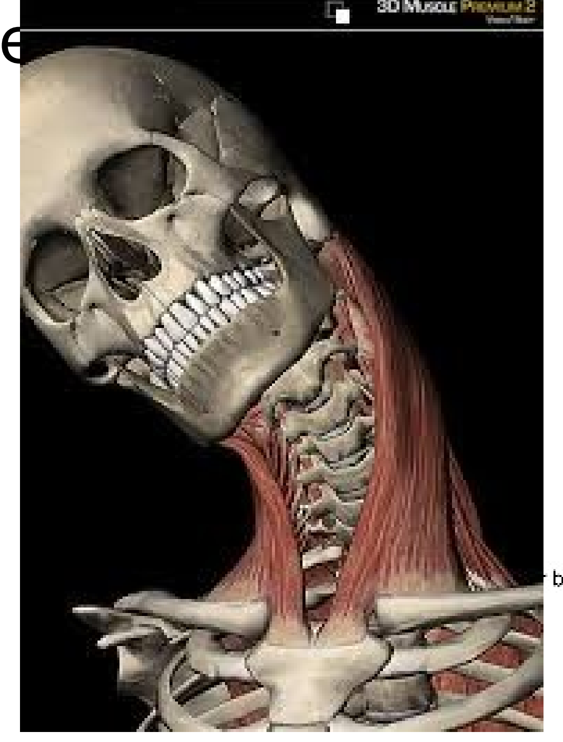
Anterior triangle



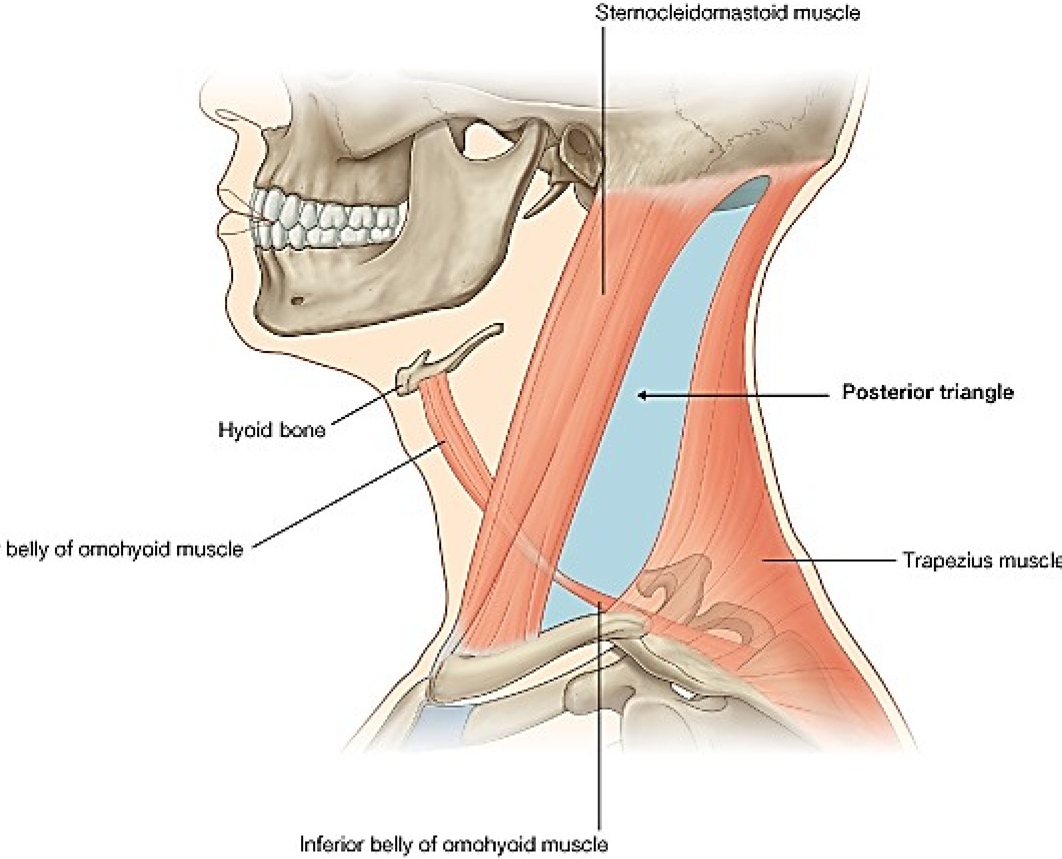
Sternomastoid muscle:

- Actions :

One muscle bends the head to its own side & turns face to opposite side



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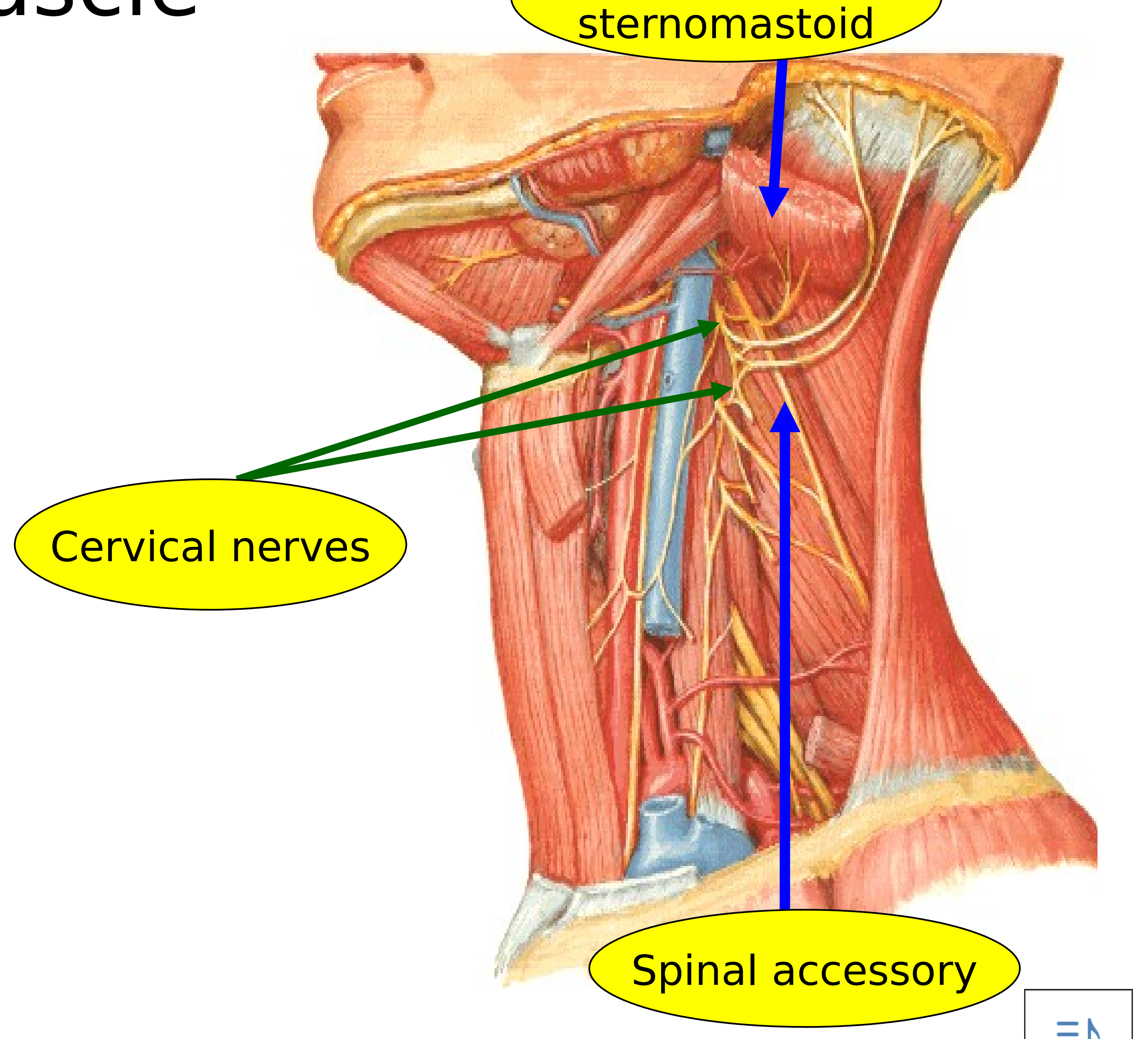


Both muscles acting together pull the he forwards & flex the neck.

Sternocleidomastoidmuscle

- Nerve supply

1. Motor Spinal accessory
2. Proprioceptive C2,3



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Torticollis of sternomastoid



- congenital as a result of excessive stretching of sternomastoid during a difficult labour.
- Spasmodic due to repeated inflammations (myositis).

(A)

(B)

Figure B8.1. Muscular (A) and spasmodic (B) torticollis.

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Quiz (Sternomastoid muscle)



A one-year-old boy was brought to the hospital because her parents noticed that the child held her head to one side. On examination, the girl's head was found to be tilted towards the right side and the face turned to the left side and upwards. The parents gave a history of birth trauma to the soft tissues of the neck.

1. Name the muscle and its side involved in birth injury in this case?
2. What is the clinical condition called?
3. Why is this muscle considered as an anatomical landmark in the neck?

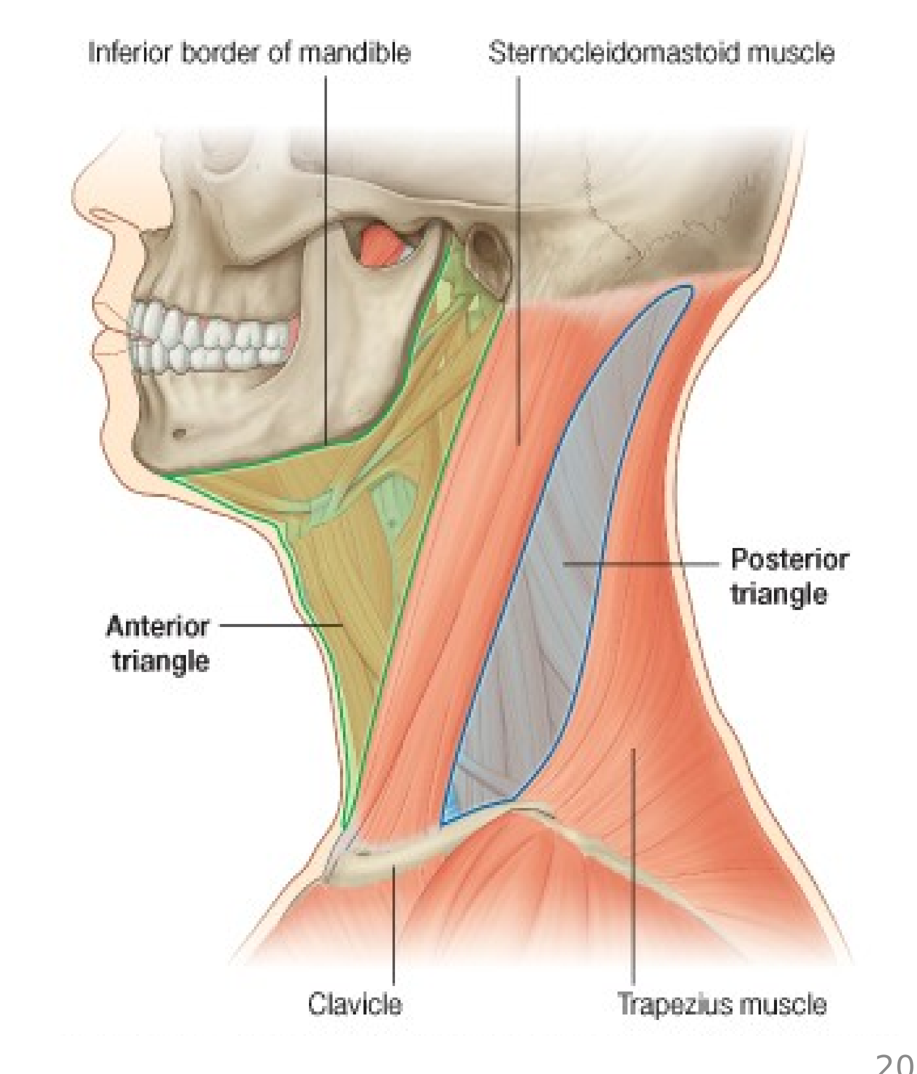


Posterior Triangle:



Boundaries:

- **Anterior:** **posterior border of sternomastoid**
- **Posterior :** **anterior border of trapezius**
- **Base :** **clavicle**
- **Apex :** **meeting of sternomastoid & trapezius.**

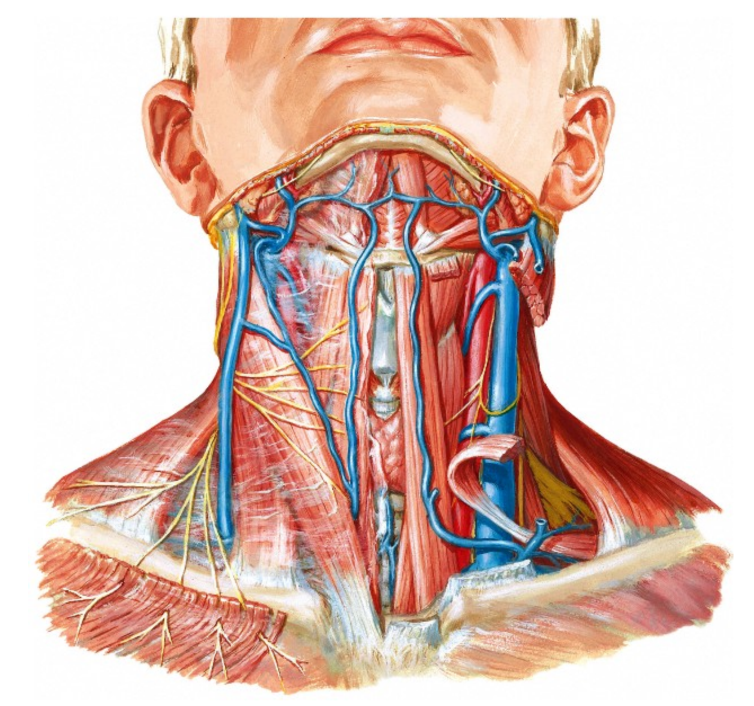


Roof of the posterior triangle



- **Skin**
- **superficial fascia containing ??????**

- **The investing layer of deep fascia of neck**



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Floor of the posterior triangle:



Muscular floor
3 muscles

1. Scalenus medius
2. Levator scapulae
3. Splenius capitis

All muscles are covered by prevertebral fascia

3
2
1

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Floor of the posterior triangle:



Muscular floor
3 muscles

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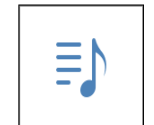
All muscles are covered by prevertebral fascia

Sternocleidomastoid muscle
Splenius capitis muscle
Levator scapulae muscle
Posterior scalene muscle
Anterior scalene muscle
Middle scalene muscle
Trapezius muscle
Clavicle
Acromion

Contents of the posterior triangle:



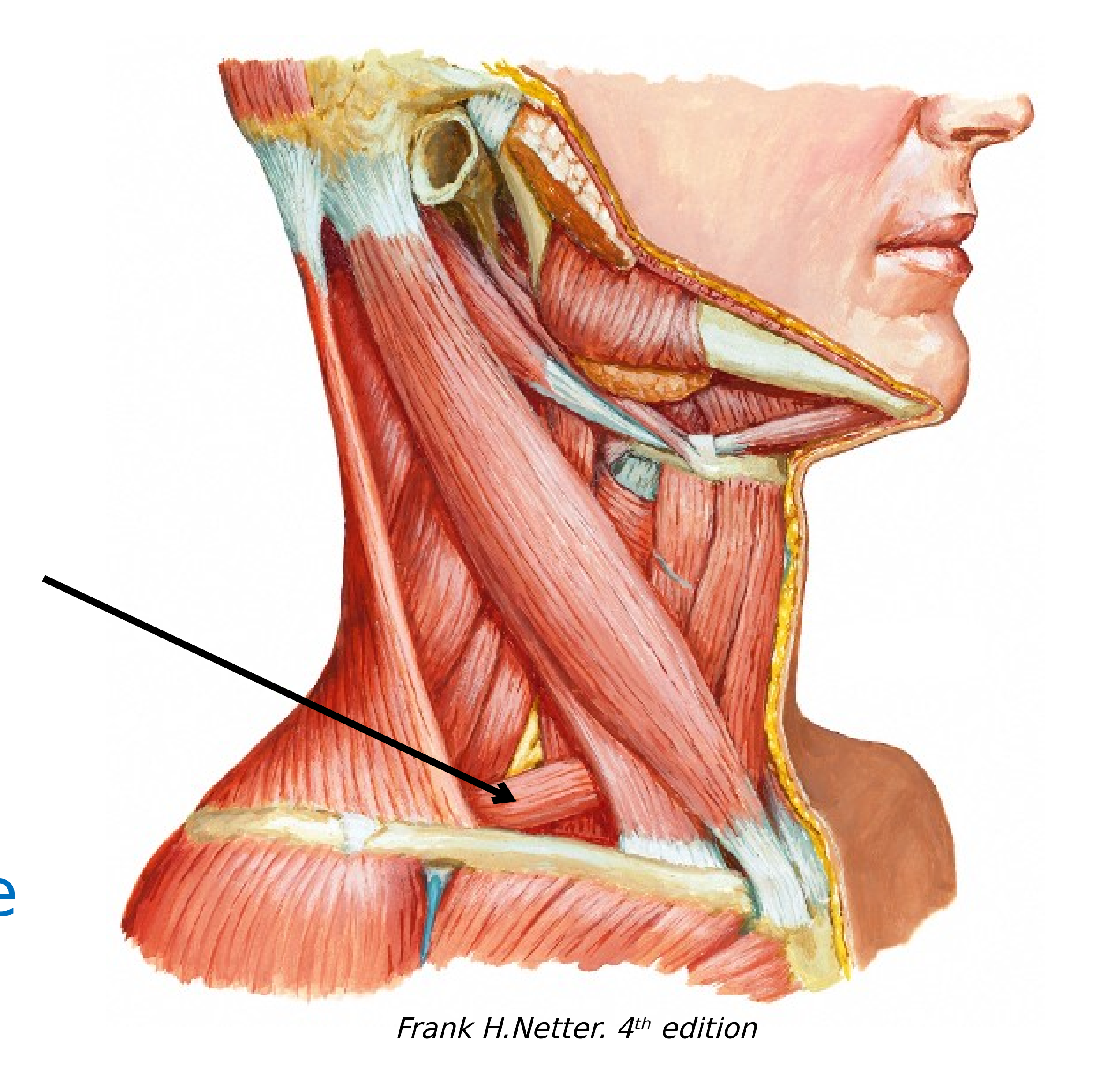
- ***1- muscles***
- ***2- Nerves***
- ***3- Arteries***
- ***4- veins***
- ***5- Lymph nodes***



1- muscle

Inferior belly of omohyoid

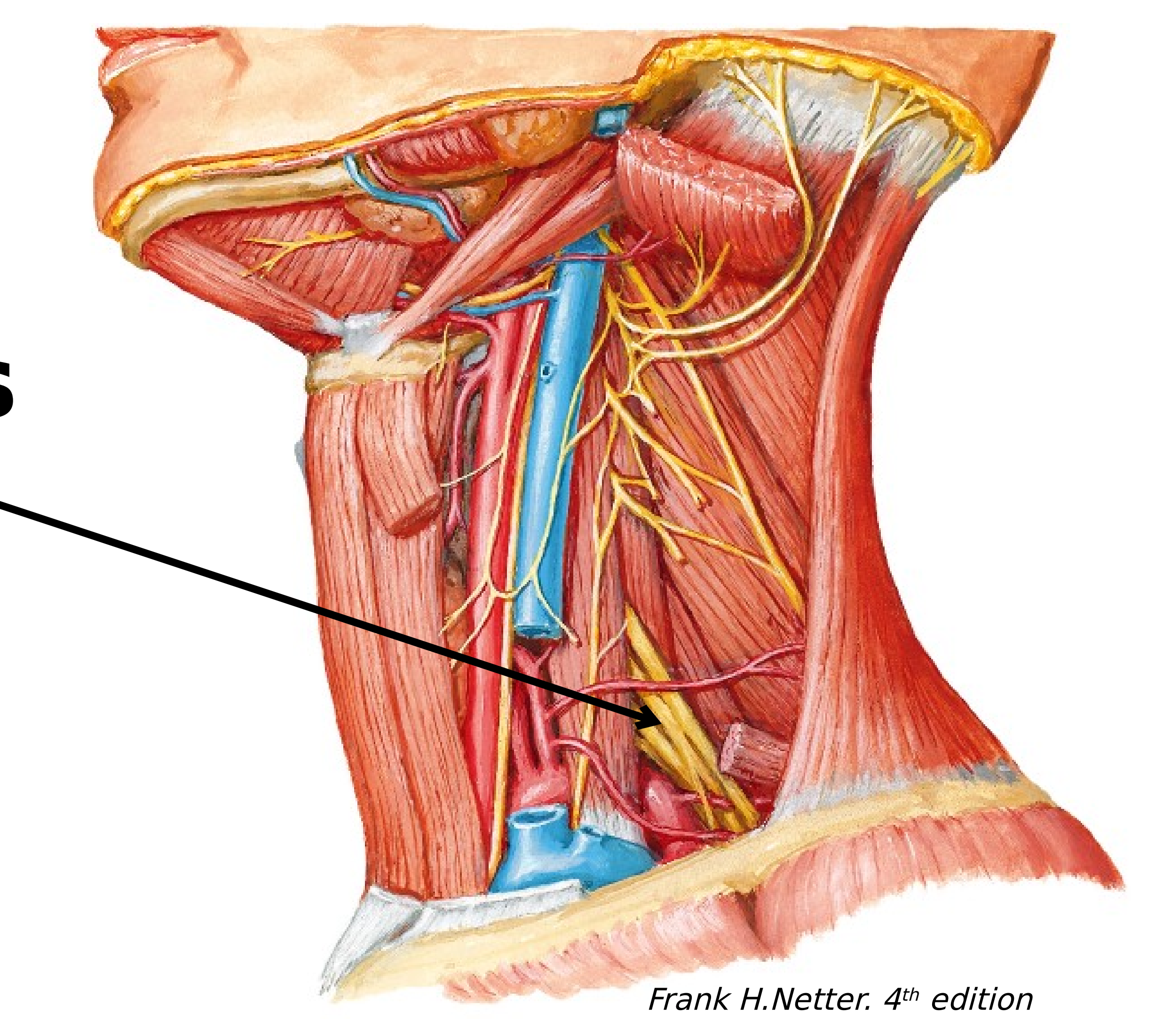
- It divides the posterior triangle into :
  - Large occipital triangle (above it)
  - Small supra-clavicular triangle (below it)



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2- Nerves

1. **Roots & trunks of brachial plexus**



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2- Nerves

1. **Roots & trunks of brachial plexus**

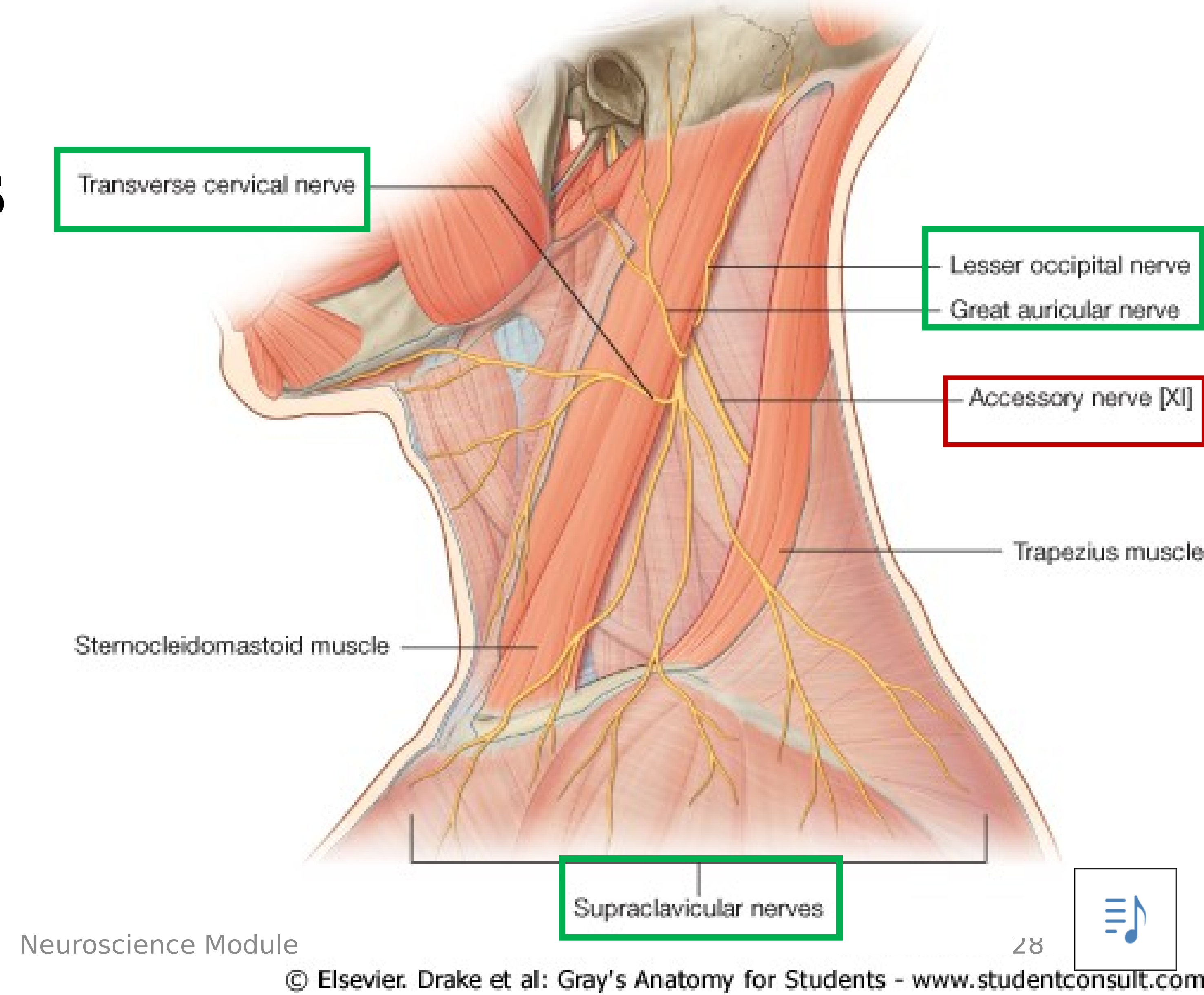
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2- Nerves

2. Four cutaneous branches of cervical plexus

3. Spinal accessory nerve



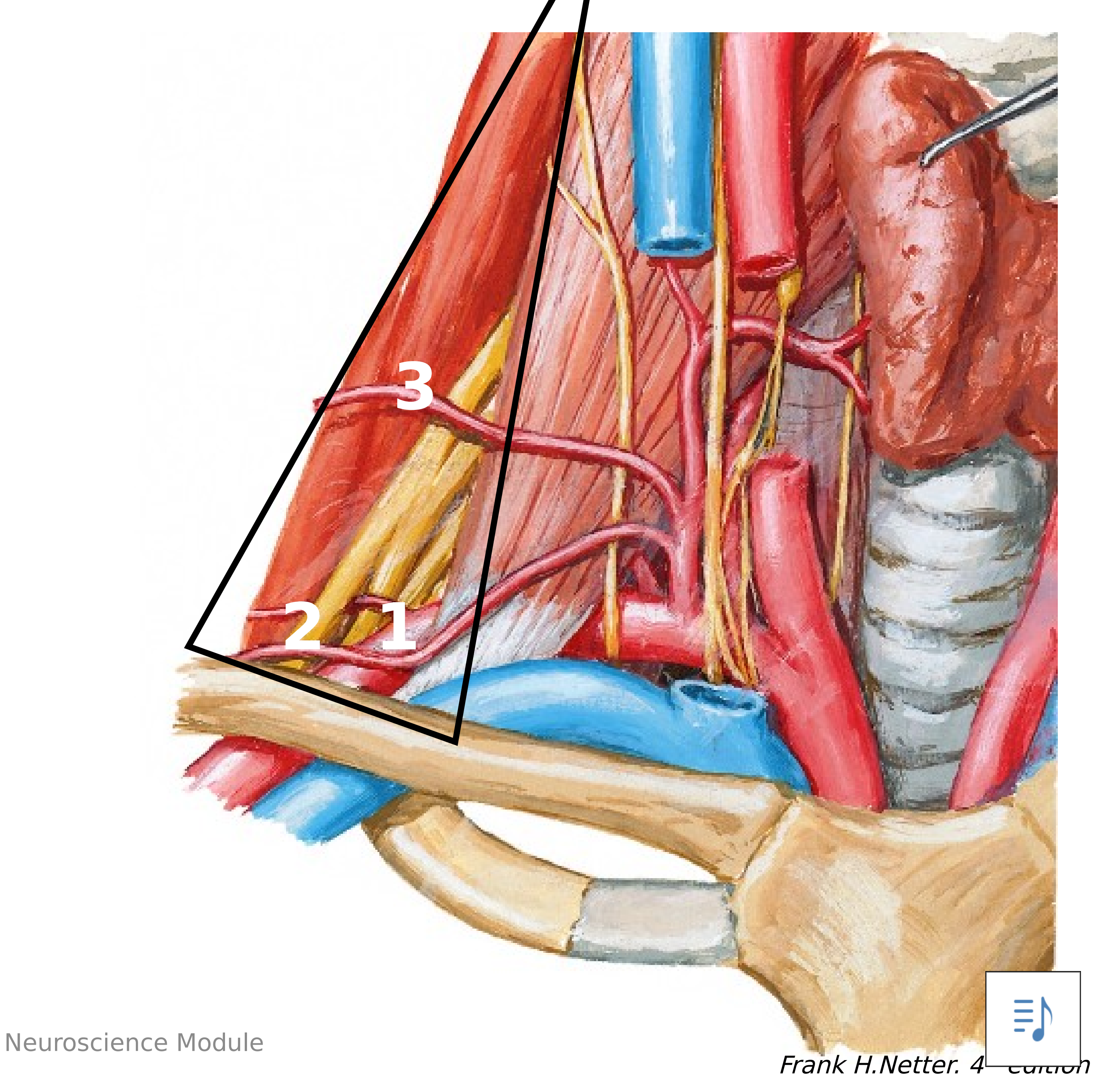
3- Arteries

In the lower part of triangle

1. 3rd part of subclavian artery
2. Suprascapular artery
3. Transverse cervical artery

At the apex

4. 3rd part of occipital artery



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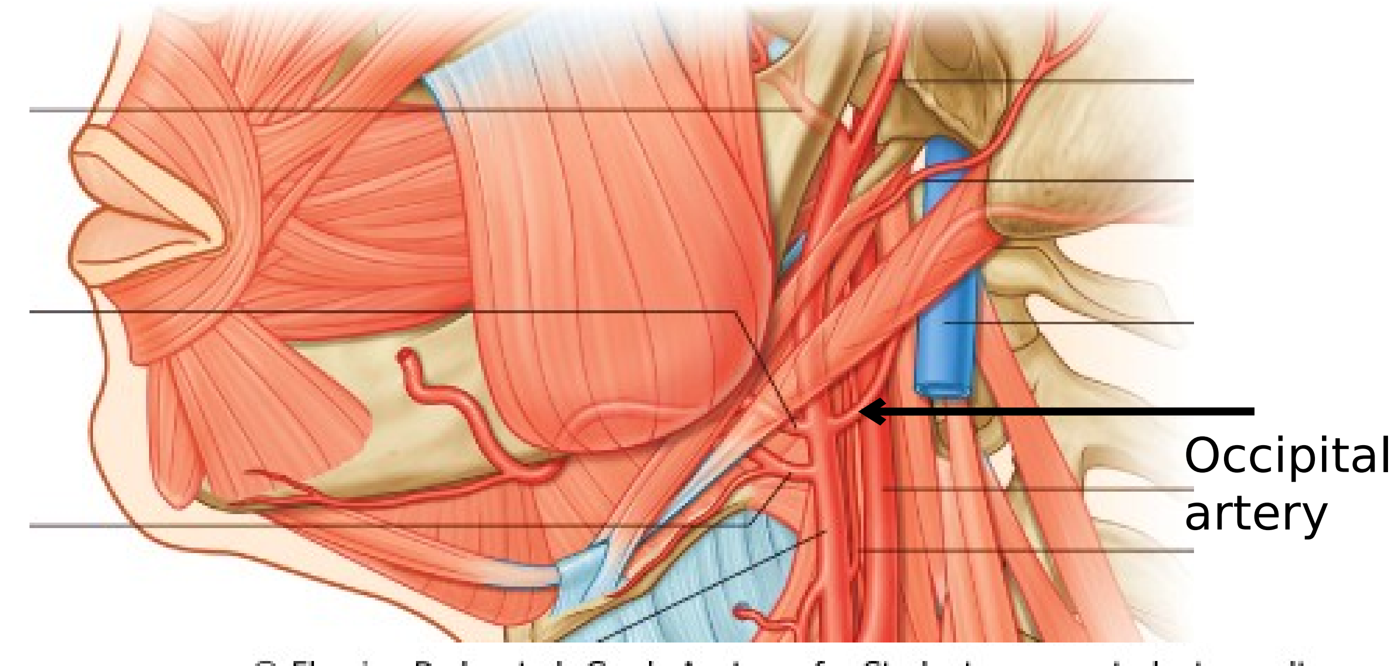
3- Arteries

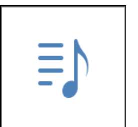
In the lower part of triangle

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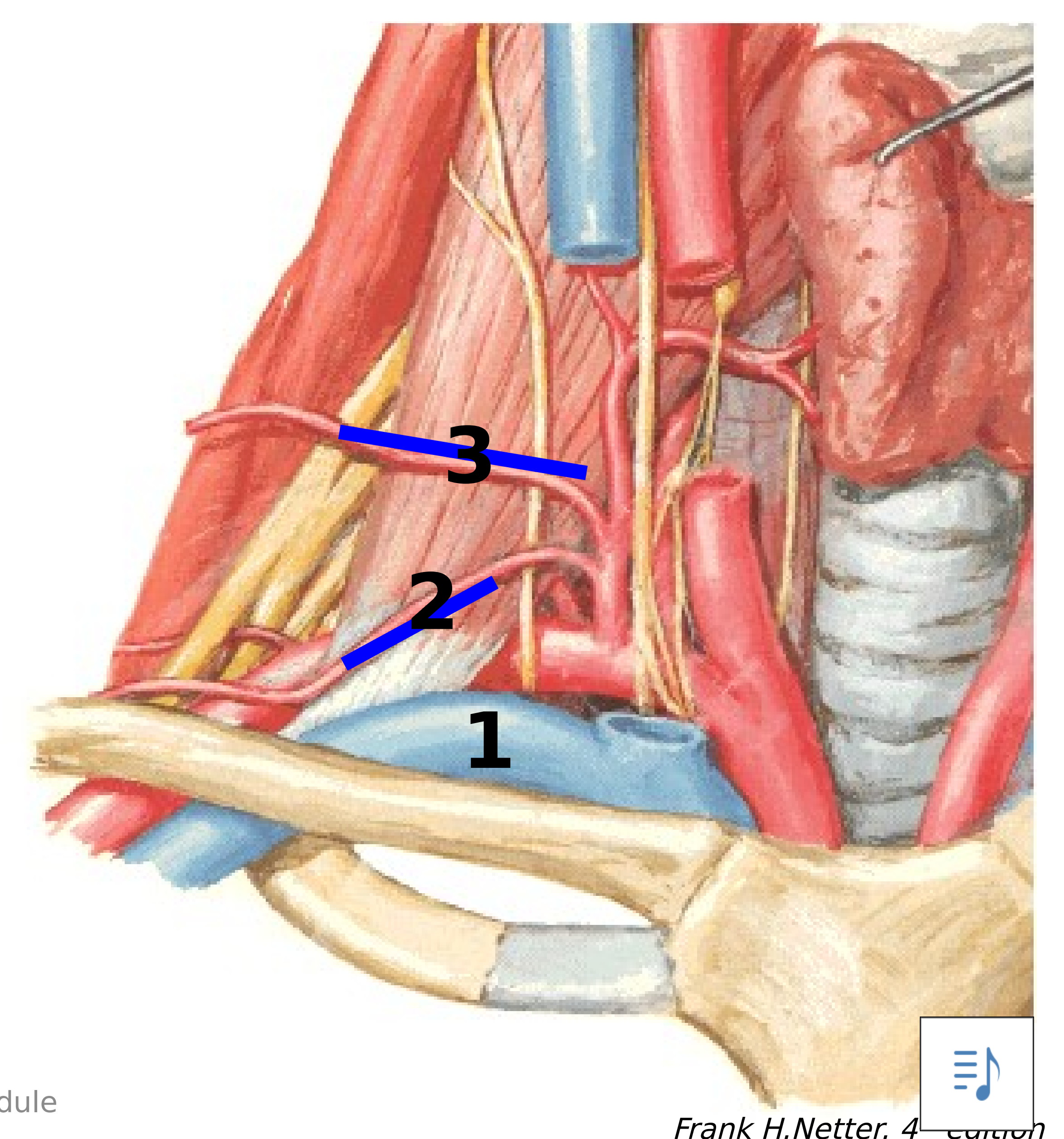




4- Veins

1. Subclavian vein
2. Suprascapular vein
3. Transverse cervical vein
4. Lower part of external jugular v

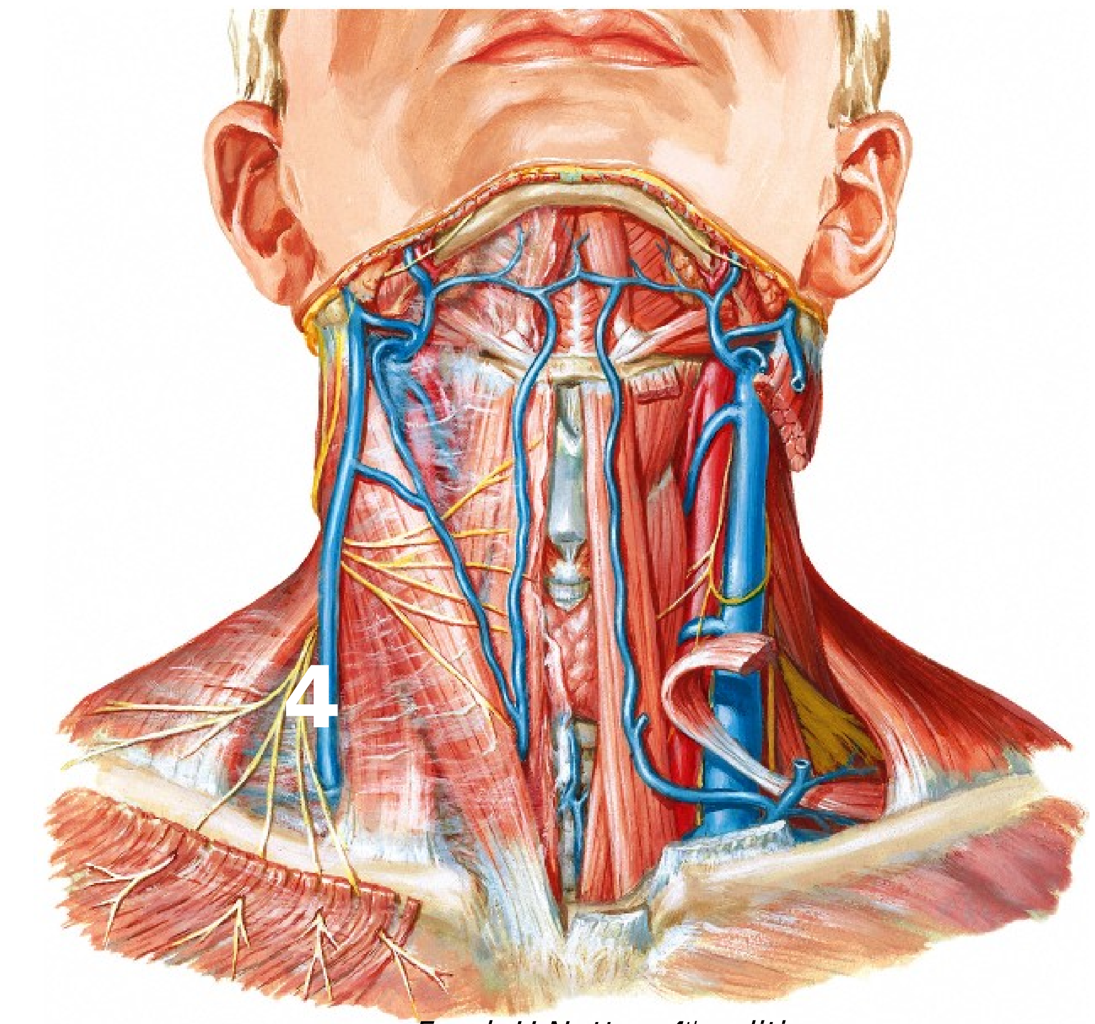
Do you remember arteries???



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4- Veins

1. Subclavian vein
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4. Lower part of external jugular v



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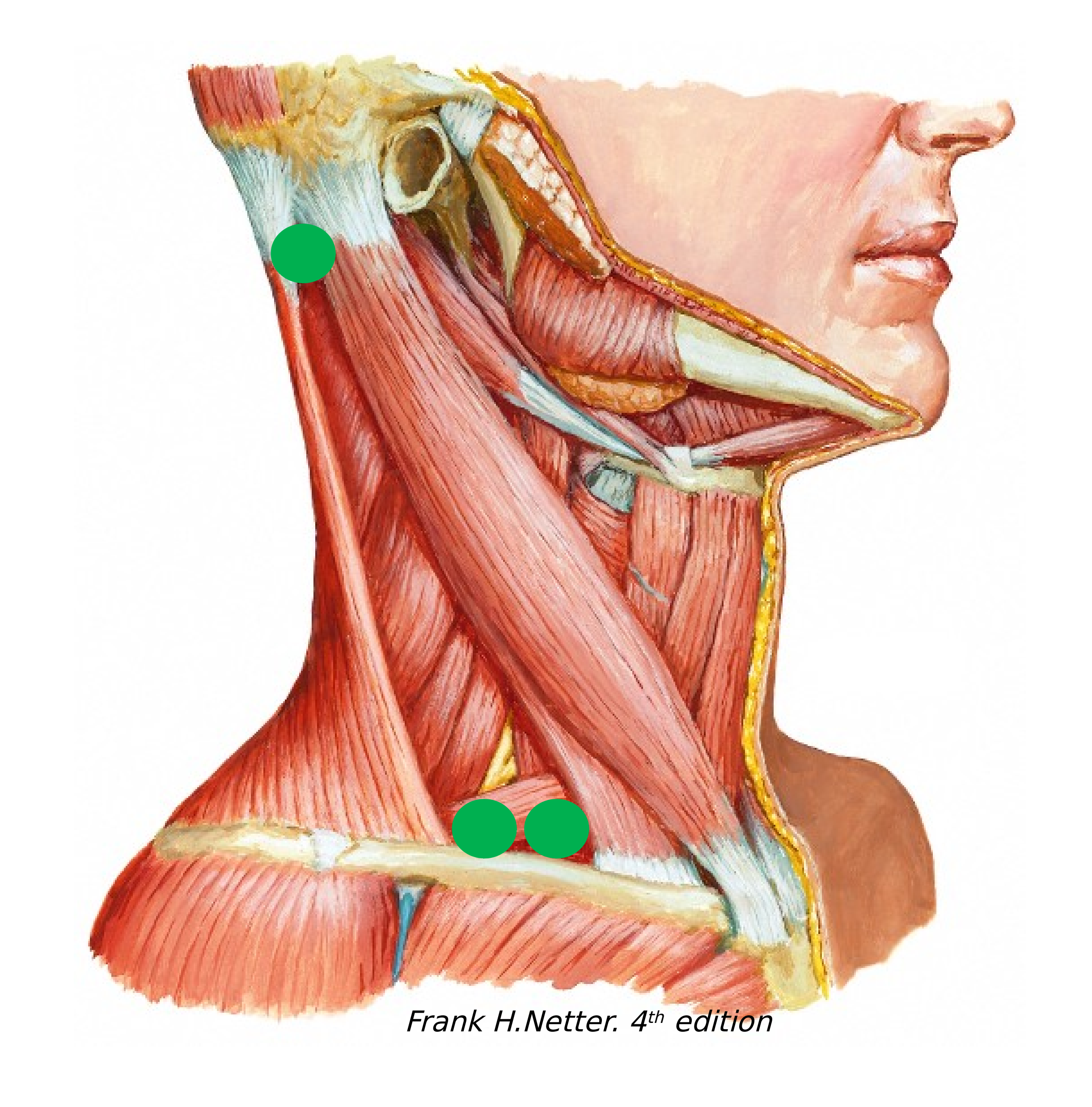
Do you remember arteries??????

5- Lymph Nodes:

Along posterior border of

sternomastoid:

- **Supraclavicular L.N.**
- **Occipital L.N.**



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Quiz (posterior triangle)



One of the following muscles is content of the posterior triangle,

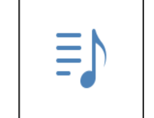
A) Inferior belly of omohyoid

B) Digastric muscle

C) sternomastoid

D) Trapezius

E) Levator scapulae



Quiz (posterior triangle)



One of the following structures form the floor of the posterior triangle of the neck:

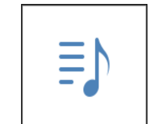
A) Investing layer of deep cervical fascia

B) Buccopharyneal fascia

C) platysma

D) Prevertebral layer of deep cervical fascia

E) Pretacheal fascia



Summary



1- Layers of deep cervical fascia (four layers……..?)

2- Sternomastoid muscle (action & nerve supply).

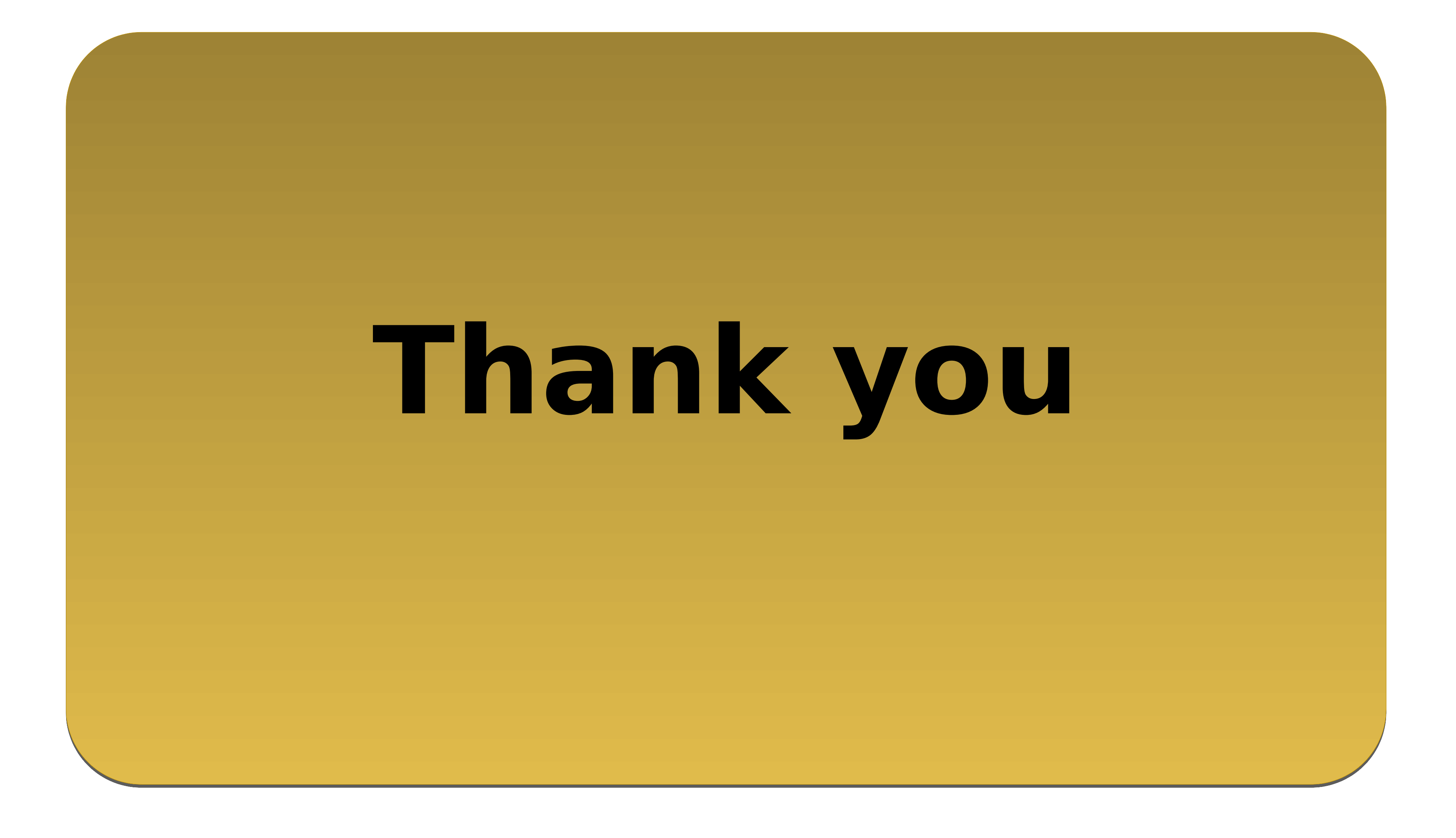
3- Boundaries of triangles of the neck

4- Contents of the posterior triangle.

SUGGESTED TEXTBOOKS



1. Clinical Anatomy by regions, Richard Snell, 9th. Edition pages 591- 596.


Thank you